UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,068	03/28/2007	Kokkie Schnetz	APV31942	4855

77213 7590 04/21/2008

Novak Druce + Quigg, LLP
1300 Eye Street, NW, Suite 1000
Suite 1000, West Tower
Washington, DC 20005

EXAMINER	
WONG, EDNA	

ART UNIT	PAPER NUMBER
1795	

MAIL DATE	DELIVERY MODE
04/21/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/584,068	SCHNETZ ET AL.	
	Examiner	Art Unit	
	EDNA WONG	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 June 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *June 22, 2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Drawings

Figures **1-5** should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Applicants' specification discloses:

"Fig. 1 shows a cross section of a *conventional* tinning cell and various elements used in such a cell;

Fig. 2 shows an example of a screen shot of process control apparatus displaying coating thicknesses at different positions over the strip width in a *conventional* tinning line;

Fig. 3 shows a top view of an anode bridge forming part of a *conventional* tinning cell;

Fig. 4 schematically indicates the movement of the anode bars along the anode bridge in a *conventional* tinning process;

Fig. 5 schematically indicates removing or adding anode bars in a *conventional* tinning process" (page 2, line 27 to page 3, line 1).

Specification

I. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because the word “said” is used in line 2. Correction is required. See MPEP § 608.01(b).

II. The disclosure is objected to because of the following informalities:

page 1, line 27, it is improper to refer to the claims in the disclosure. “[C]laim 1 et seq.” should be deleted.

page 2, line 12, it is improper to refer to the claims in the disclosure. “[C]laim 2” should be deleted.

page 2, line 13, it is improper to refer to the claims in the disclosure. “[C]laim 3” should be deleted.

page 2, line 26 to page 3, line 12, the description of Fig.10 is missing.

page 7, line 4, the words -- (not shown) -- should be inserted after the number "14" (first occurrence).

page 7, line 13, the word "holmic" should be amended to the word -- ohmic --.

Appropriate correction is required.

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

Claim **1** is objected to because of the following informalities:

Claim 1

line 5, the word -- a -- should be inserted after the word "as".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

Claims **1-5** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1

line 4, "said anodically dissolved tin" lacks antecedent basis.

line 6, it appears that the "tin" is the same as the anodically dissolved tin recited in claim 4. However, the claim language is unclear as to whether it is.

lines 6-7, it appears that the "pellets held in an anode basket" are further limiting the anodically dissolving tin anodes recited in claim 1, line 3. However, the claim language is unclear as to whether it is.

line 7, it appears that "the tin anodes" are the same as the anode basket recited in claim 1, lines 6-7. However, the claim language is unclear as to whether it is.

Claim 5

line 2, it appears that the "tin pellets" are the same as the pellets held in the anode basket recited in claim 1, lines 6-7. However, the claim language is unclear as to whether it is.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

I. Claims **1-2 and 5** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Allen** (US Patent No. 2,719,820) in combination with **Botts et al.** (US Patent No. 5,776,327).

Allen teaches process for high speed metal strip electrotinning comprising:

plating the strip **S** (= a continuous steel strip) with tin anodes **16** (col. 1, line 72 to col. 2, line 1) facing the strip (Fig. 1) into an electroplating solution (= a plating bath) [col. 2, lines 1-4], and depositing tin on at least part of the strip (= coating steel strip with tin) [col. 1, lines 15-16] acting as cathode (= deposited electrolytically on the strip, **S**, as known in the art) [col. 2, lines 1-4].

The process of Allen differs from the instant invention because Allen does not disclose the following:

a. Wherein the plating is by anodically dissolving tin anodes, as recited in claim 1.

b. Wherein tin is supplied to the electroplating solution in the form of pellets held in an anode basket, wherein part of the tin anodes is masked out using adjustable

masking means that are controlled and guided dependent on strip width and/or tin coating thickness distribution, as recited in claim 1.

Allen teaches tin anodes **16** (col. 1, line 72 to col. 2, line 1).

Like Allen, Botts teaches electrolytic tinning (= the electroplating metal particles comprise tin) [col. 2, lines 40-42; and col. 5, claims 1 and 5]. Allen teaches that tin is supplied to the electroplating solution in the form of pellets (= anode particles) held in an anode basket **10** (col. 2, lines 40-42; and col. 3, lines 43-63), wherein part of the tin anodes is masked out using adjustable masking means (= preferably, the step of *masking* selected portions of an anode basket comprises covering the anode basket with a non-conductive frame, placing a plurality of non-conductive plates on the frame, and *adjusting the position of each of the plurality of non-conductive plates on the frame* to achieve a desired electric field distribution) [col. 2, line 65 to col. 3, line 3].

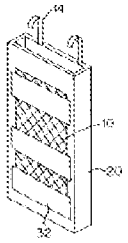
It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the plating described by Allen with wherein the plating is by anodically dissolving tin anodes; and wherein tin is supplied to the electroplating solution in the form of pellets held in an anode basket, wherein part of the tin anodes is masked out using adjustable masking means because this would have altered the electric field to produce a uniform plating thickness across the entire workpiece as taught by Botts (col. 4, line 67 to col. 5, line 3).

Furthermore, Botts teaches that his anode basket is applicable for use with any electroplating apparatus and process in which achieving a uniform plating thickness is

desired (col. 3, lines 49-52; and col. 4, line 65 to col. 5, line 3).

As to wherein the adjustable masking means are controlled and guided dependent on strip width and/or tin coating thickness distribution, the reason or motivation to modify the reference may often suggest what the inventor has done, but for a different purpose or to solve a different problem. It is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by the Applicants. *In re Linter* 458 F.2d 1013, 173 USPQ 560 (CCPA 1972); *In re Dillon* 919 F.2d 688, 16 USPQ2d 1897 (Fed. Cir. 1990), *cert. denied*, 500 US 904 (1991); and MPEP § 2144.

c. Wherein the masking means comprise a shutter or blind, as recited in claim 2.

Botts teaches that the masking means comprise a shutter or blind (= a plurality of non-conductive plates **32**) [col. 4, lines 23-28; and Fig. 5: ].

d. Wherein an automated supply system is provided to add tin pellets to the anode basket, as recited in claim 5.

Allen discloses a *continuous* metal coating line (col. 1, lines 60-65; and Fig. 1).

Botts teaches an anode basket for electroplating a workpiece (col. 3, lines 5-13).

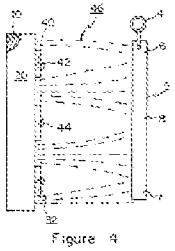
It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process described by the Allen and Botts combination with wherein an automated supply system is provided to add tin pellets to the anode basket because when the tin anode particles disclosed by Botts (col. 2, lines 40-42; and col. 5, claims 1 and 5) are depleted in the continuous electroplating process disclosed by Allen, one having ordinary skill in the art has the knowledge and skill to add more tin anode particles to the anode basket to provide for the continuous operation of the coating line.

As to an automated supply system, the provision of mechanical or automated means to replace manual activity was held to have been obvious. *In re Venner* 120 USPQ 192; and MPEP § 2144.04(III).

II. Claims **3 and 4** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Allen** (US Patent No. 2,719,820) in combination with **Botts et al.** (US Patent No. 5,776,327) as applied to claims 1-2 and 5 above, and further in view of **Schober** (US Patent No. 4,164,454).

Allen and Botts are as applied above and incorporated herein.

Botts teaches that the anode basket is the current collector (col. 4, lines 40-48;

and Fig. 4: 
Figure 4).

The process of Allen differs from the instant invention because Allen does not disclose wherein the pellets are electrically contacted via a current collector made of a material with a low electrical resistance allowing for good electrical contact with the tin pellets and being electrochemically inert in the electrolyte, as recited in claim 3.

Like Allen, Schober teaches a process for the continuous electroplating of a metallic strip.

Like Botts, Schober teaches an anode basket (col. 3, lines 52-56).

Schober teaches that the pellets are electrically contacted (= holding pellets of the metals to be plated) via a current collector (= an anode basket **66**) made of a material with a low electrical resistance allowing for good electrical contact with the tin pellets and being electrochemically inert in the electrolyte (= preferably formed of titanium) [col. 3, lines 52-56].

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the pellets described by the Allen and Botts combination with wherein the pellets are electrically contacted via a current collector made of a material with a low electrical resistance allowing for good electrical contact

with the tin pellets and being electrochemically inert in the electrolyte because an anode basket, preferably formed of titanium and holding pellets of the metal to be plated, as well as masks to control plating uniformly, if required, is a conventional structure for an anode basket in the process for the continuous electroplating of a metallic strip as taught by Schober (col. 3, lines 52-56).

Citations

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hassell (US Patent No. 2,690,424) teaches that an adjustable mask is interposed between the strip and the eroded anode (col. 5, line 74 to col. 6, line 33).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EDNA WONG whose telephone number is (571) 272-1349. The examiner can normally be reached on Mon-Fri 7:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Edna Wong/
Primary Examiner
Art Unit 1795

EW
April 16, 2008